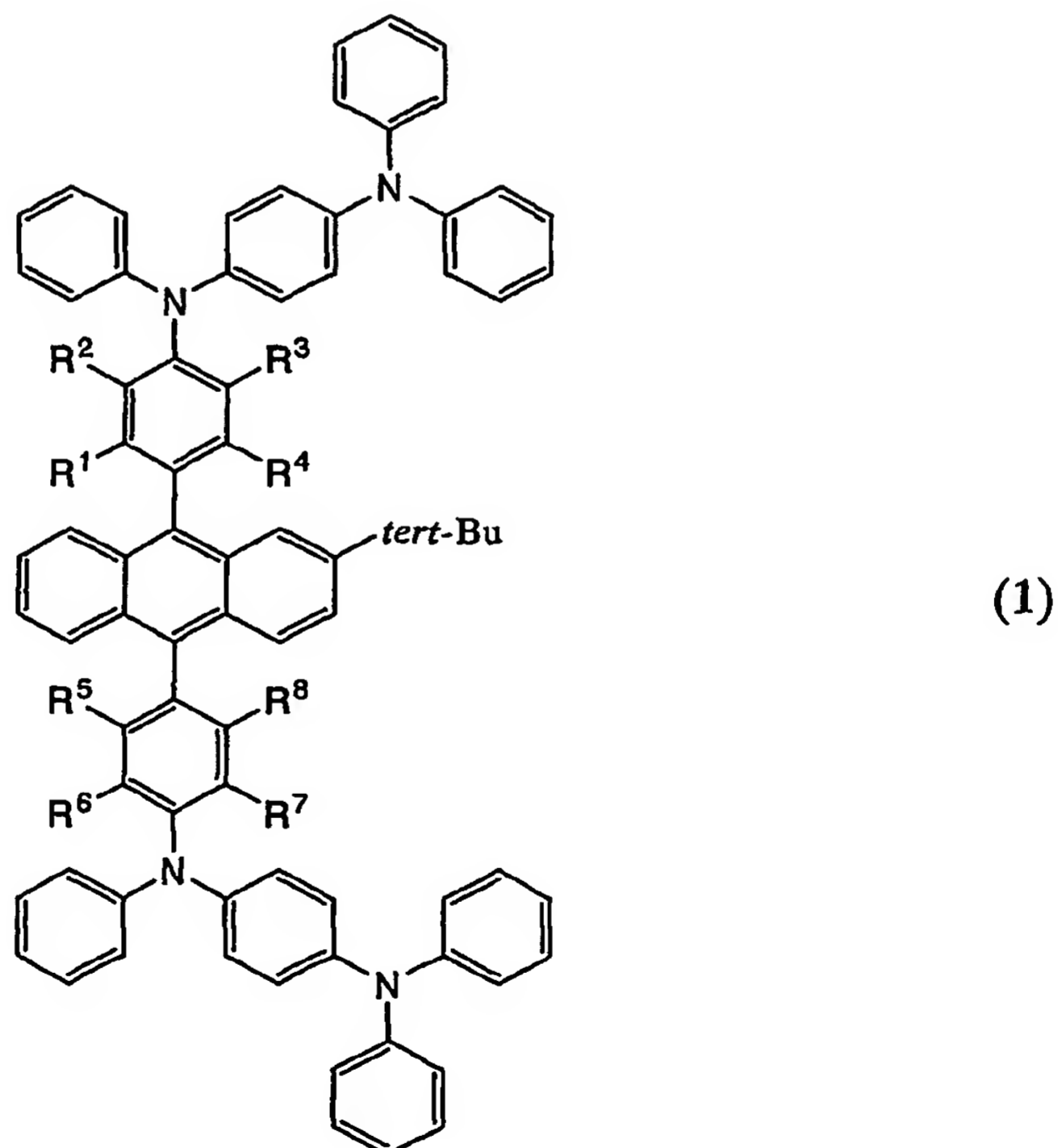


CLAIMS

1. A light-emitting element comprising:
a first electrode and a second electrode,
5 a first layer and a second layer formed between the first electrode and the second electrode,
wherein the first layer contains an anthracene derivative represented by a general formula (1) and a substance that shows electron acceptability to the anthracene derivative,
10 wherein the second layer contains a light emitting substance,

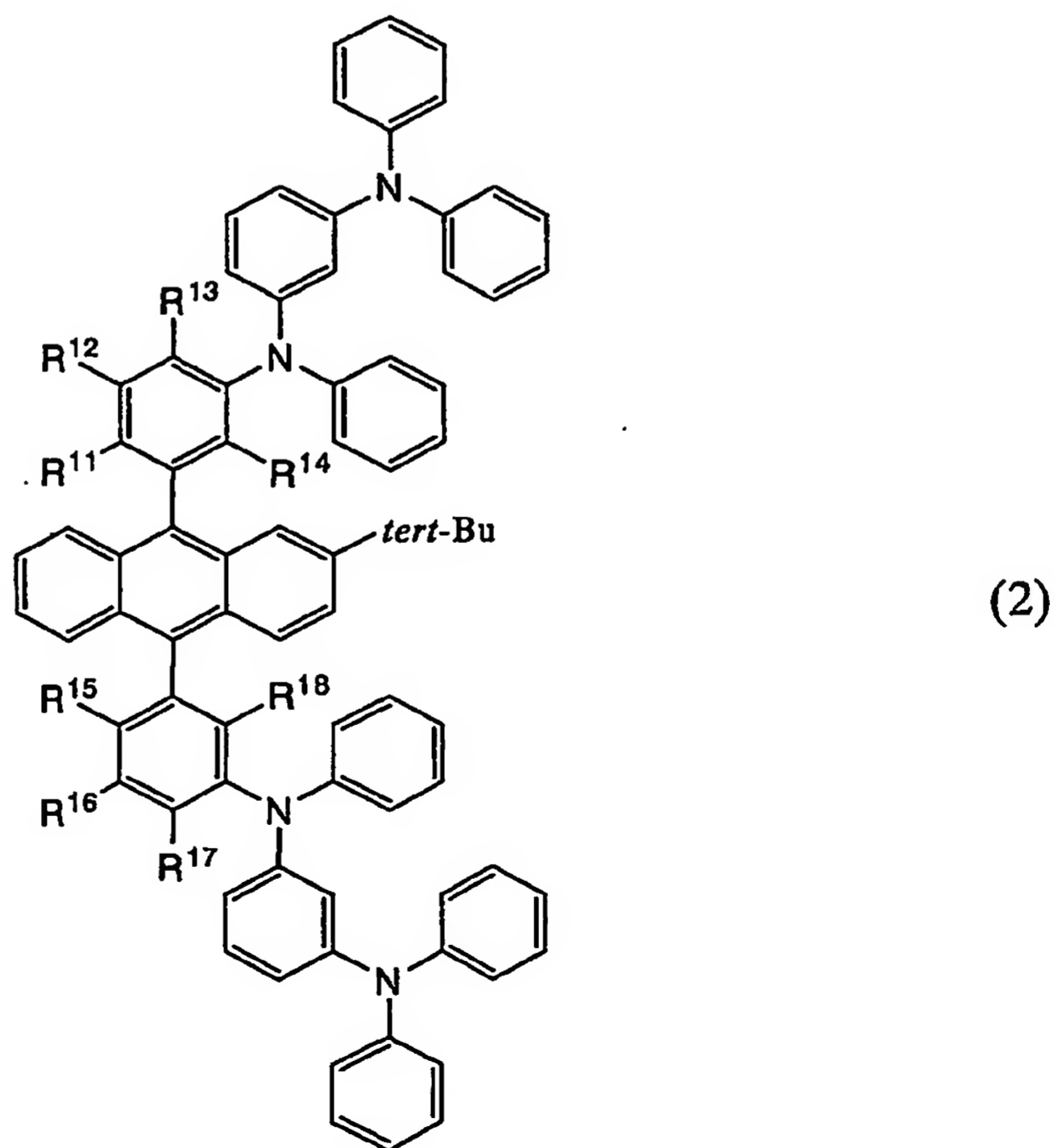


- wherein R^1 to R^8 are individually any one of hydrogen and an alkyl group having 1 to 4 carbon atoms, or R^1 and R^2 , R^3 and R^4 , R^5 and R^6 , and R^7

and R⁸ are individually bonded to from an aromatic ring,

wherein the bond of R¹ and R², the bond of R³ and R⁴, the bond of R⁵ and R⁶, and the bond of R⁷ and R⁸ are independent of one another.

- 5 2. A light-emitting element comprising:
 a first electrode and a second electrode,
 a first layer and a second layer formed between the first electrode and
 the second electrode,
 wherein the first layer contains an anthracene derivative represented
 10 by a general formula (2) and a substance that shows electron acceptability to
 the anthracene derivative,
 wherein the second layer contains a light emitting substance,



wherein R^{11} to R^{18} are individually any one of hydrogen and an 'alkyl group having 1 to 4 carbon atoms, or R^{11} and R^{12} , R^{12} and R^{13} , R^{15} and R^{16} , and R^{16} and R^{17} are individually bonded to from an aromatic ring,

wherein the bond of R^{11} and R^{12} ; the bond of R^{12} and R^{13} , the bond of
5 R^{15} and R^{16} , and the bond of R^{16} and R^{17} are independent of one another.

3. The light-emitting element according to claim 1, wherein the substance is at least one of metal oxide selected from molybdenum oxide, vanadium oxide, ruthenium oxide, and rhenium oxide.

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4. The light-emitting element according to claim 2, wherein the substance is at least one of metal oxide selected from molybdenum oxide, vanadium oxide, ruthenium oxide, and rhenium oxide.

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5. A light-emitting element comprising:

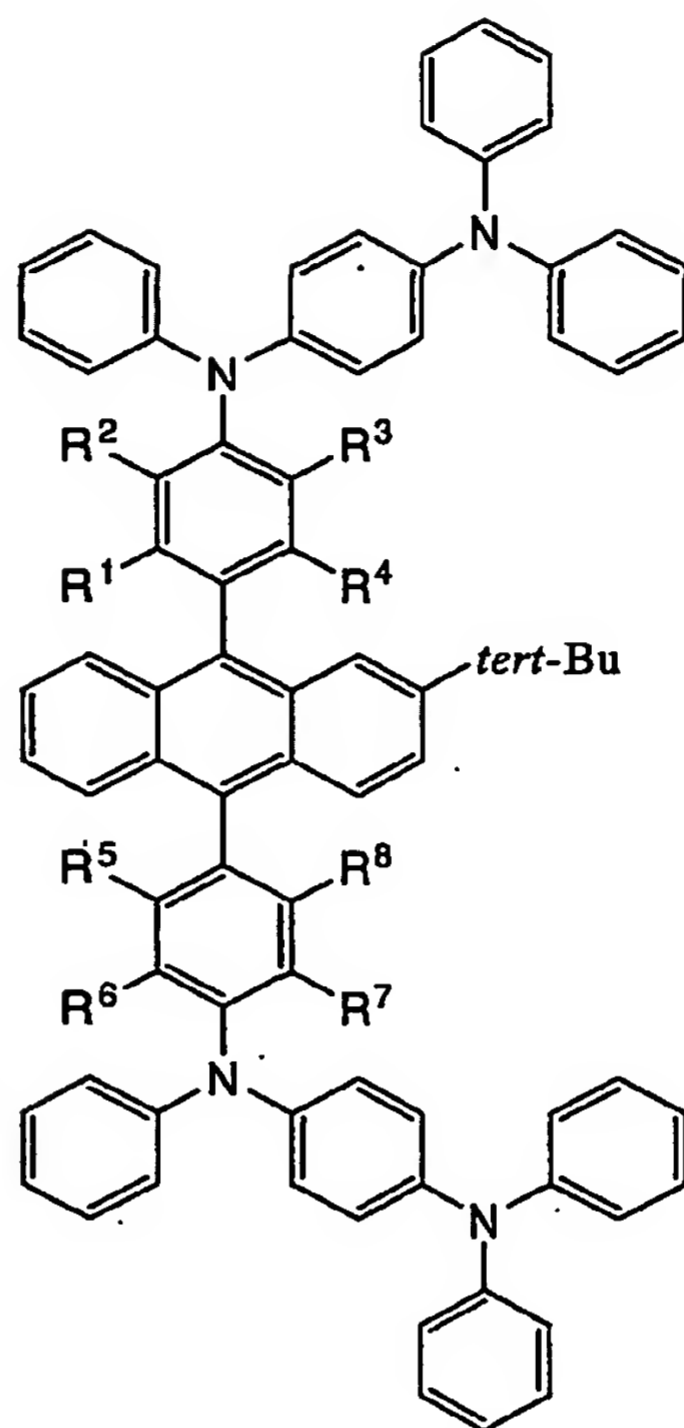
a first electrode and a second electrode,

a first layer, a second layer and a third layer formed between the first electrode and the second electrode,

wherein the first layer contains an anthracene derivative represented
20 by a general formula (1) and a first substance that shows electron acceptability to the anthracene derivative,

wherein the second layer contains a light-emitting substance, and

wherein the third layer contains a second substance having electron mobility of 1×10^6 cm²/Vs or more and a third substance that shows electron
25 acceptability to the second substance,



(1)

wherein R^1 to R^8 are individually any one of hydrogen and an alkyl group having 1 to 4 carbon atoms, or R^1 and R^2 , R^3 and R^4 , R^5 and R^6 , and R^7 and R^8 are individually bonded to from an aromatic ring,

5 wherein the bond of R^1 and R^2 , the bond of R^3 and R^4 , the bond of R^5 and R^6 , and the bond of R^7 and R^8 are independent of one another.

6. A light-emitting element comprising:

a first electrode and a second electrode,

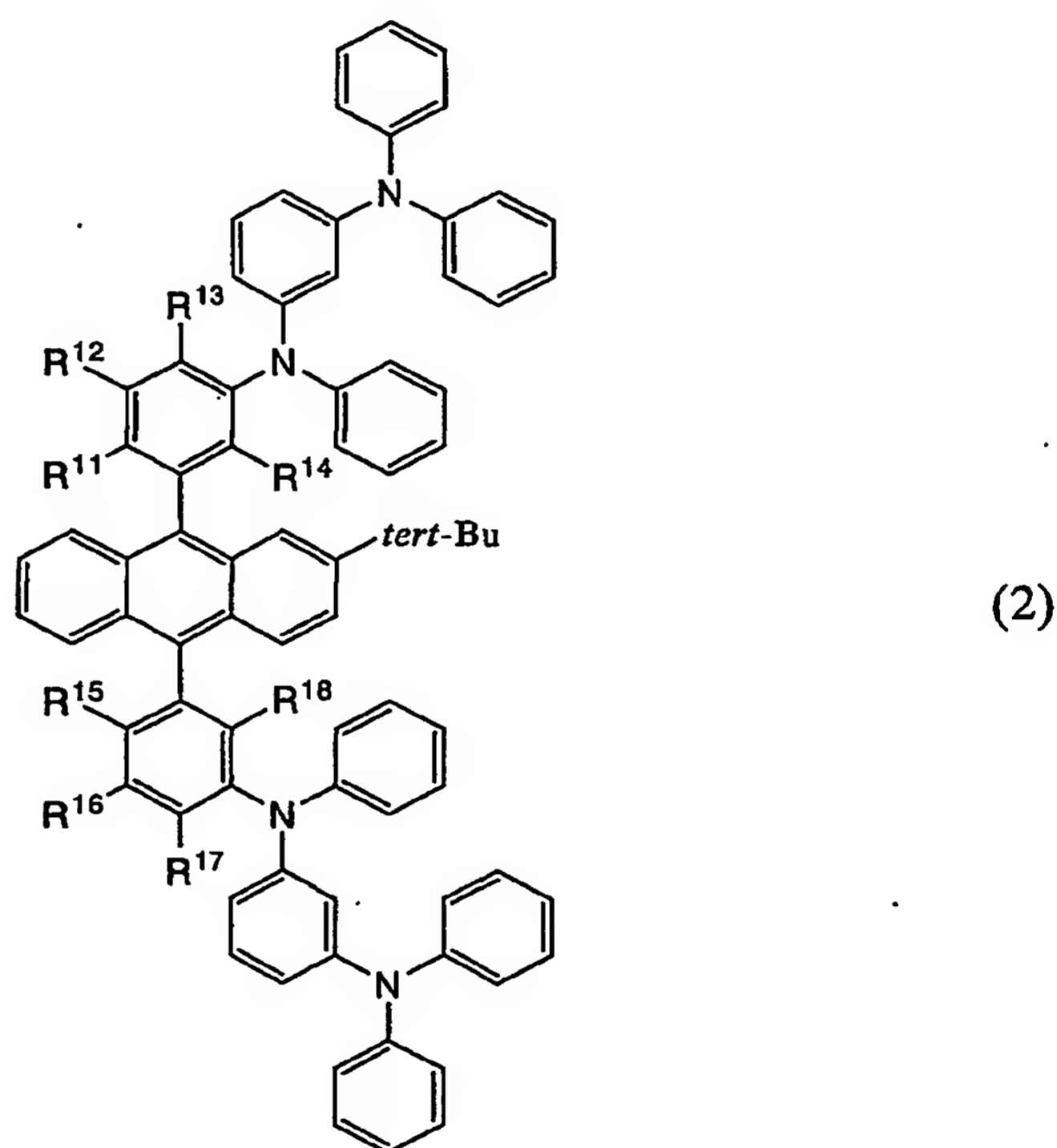
10 a first layer, a second layer and a third layer formed between the first electrode and the second electrode,

wherein the first layer contains an anthracene derivative represented by a general formula (2) and a first substance that shows electron acceptability to the anthracene derivative,

15 wherein the second layer contains a light-emitting substance, and

wherein the third layer contains a second substance having electron mobility of $1 \times 10^{-6} \text{ cm}^2/\text{Vs}$ or more and a third substance that shows electron acceptability to the second substance,

5



wherein R^{11} to R^{18} are individually any one of hydrogen and an alkyl group having 1 to 4 carbon atoms, or R^{11} and R^{12} , R^{12} and R^{13} , R^{15} and R^{16} , and R^{16} and R^{17} are individually bonded to from an aromatic ring,

wherein the bond of R^{11} and R^{12} , the bond of R^{12} and R^{13} , the bond of R^{15} and R^{16} , and the bond of R^{16} and R^{17} are independent of one another.

7. The light-emitting element according to claim 5, wherein the first substance is at least one of substances selected from molybdenum oxide,

vanadium oxide, ruthenium oxide, and rhenium oxide, and wherein the[^]third substance is at least one of substances selected from lithium oxide, calcium oxide, sodium oxide, potassium oxide, magnesium oxide, lithium fluoride, cesium fluoride, and calcium fluoride.

5

8. The light-emitting element according to claim 6, wherein the first substance is at least one of substances selected from molybdenum oxide, vanadium oxide, ruthenium oxide, and rhenium oxide, and wherein the third substance is at least one of substances selected from lithium oxide, calcium
10 oxide, sodium oxide, potassium oxide, magnesium oxide, lithium fluoride, cesium fluoride, and calcium fluoride.

9. A light-emitting element comprising-
a first electrode and a second electrode,
15 a first layer, a second layer and a third layer formed between the first electrode and the second electrode,

wherein the first layer contains an anthracene derivative represented by a general formula (I) and a first substance that shows electron acceptability to the anthracene derivative,

20 wherein the second layer contains a second substance having electron mobility of $1 \times 10^6 \text{ cm}^2/\text{Vs}$ or more and a third substance that shows electron acceptability to the second substance,

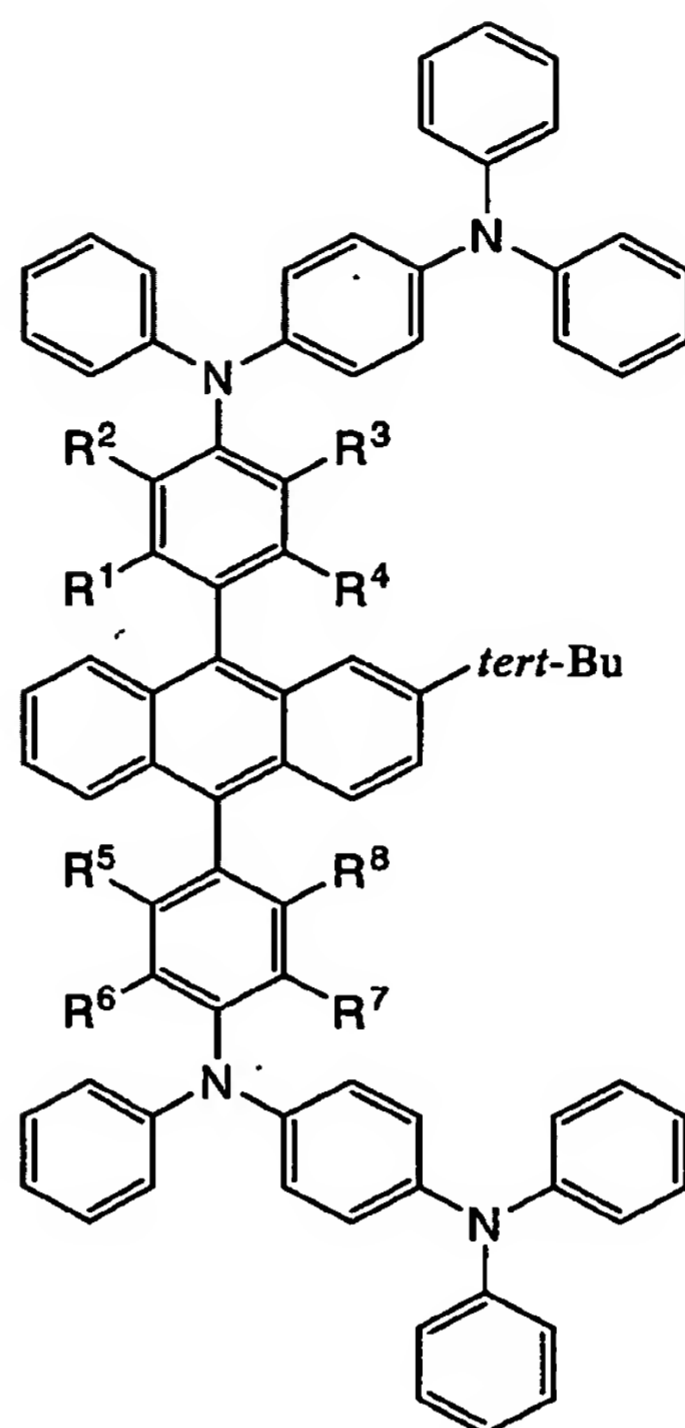
wherein the third layer contains a light-emitting substance,

wherein the first layer is provided nearer the first electrode side than
25 the second layer,

wherein the third layer is provided nearer the second electrode side than the second layer, and

wherein the second layer and the third layer emits light when a voltage is applied so that the potential of the first electrode gets lower than
30 that of the second electrode,

70



(1)

wherein R¹ to R⁸ are individually any one of hydrogen and an alkyl group having 1 to 4 carbon atoms, or R¹ and R², R³ and R⁴, R⁵ and R⁶, and R⁷ and R⁸ are individually bonded to from an aromatic ring,

5 wherein the bond of R¹ and R², the bond of R³ and R⁴, the bond of R⁵ and R⁶, and the bond of R⁷ and R⁸ are independent of one another.

10. A light-emitting element comprising:

a first electrode and a second electrode,

10 a first layer, a second layer and a third layer formed between the first electrode and the second electrode,

wherein the first layer contains an anthracene derivative represented by a general formula (2) and a first substance that shows electron acceptability to the anthracene derivative,

15 wherein the second layer contains a second substance having electron

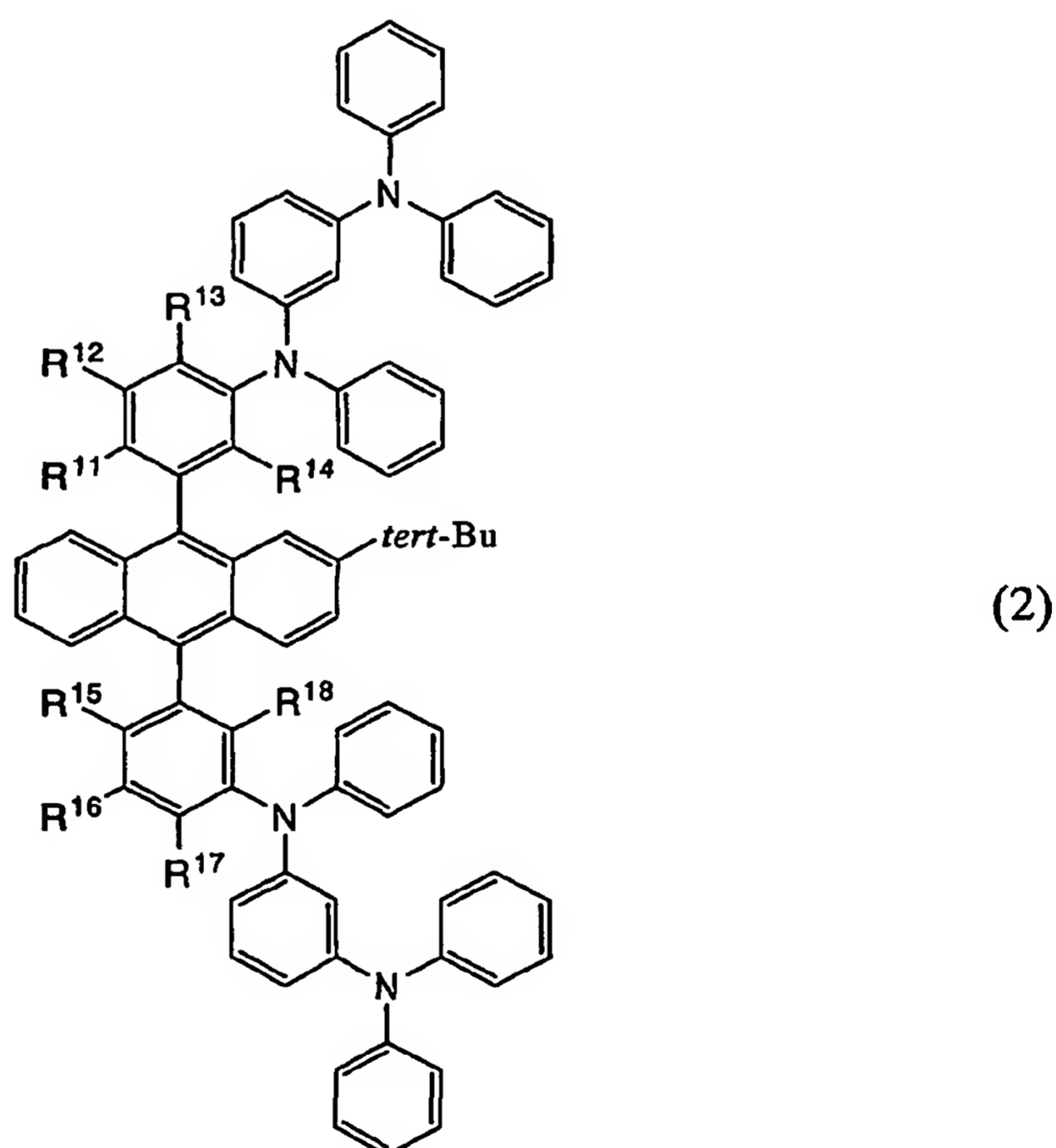
mobility of $1 \times 10^{-6} \text{ cm}^2/\text{Vs}$ or more and a third substance that shows electron acceptability to the second substance,

wherein the third layer contains a light-emitting substance,

wherein the first layer is provided nearer the first electrode side than
5 the second layer,

wherein the third layer is provided nearer the second electrode side than the second layer, and

wherein the second layer and the third layer emits light when a voltage is applied so that the potential of the first electrode gets lower than
10 that of the second electrode,



wherein R^{11} to R^{18} are individually any one of hydrogen and an alkyl group having 1 to 4 carbon atoms, or R^{11} and R^{12} , R^{12} and R^{13} , R^{15} and R^{16} , and R^{16} and R^{17} are individually bonded to from an aromatic ring,

15 wherein the bond of R^{11} and R^{12} , the bond of R^{12} and R^{13} , the bond of

R¹⁵ and R¹⁶, and the bond of R¹⁶ and R¹⁷ are independent of one another.

11. The light-emitting element according to claim 9, wherein the first substance is at least one of metal oxides selected from molybdenum oxide, vanadium oxide, ruthenium oxide, and rhenium oxide, and wherein the third substance is at least one of substances selected from lithium oxide, calcium oxide, sodium oxide, potassium oxide, magnesium oxide, lithium fluoride, cesium fluoride, and calcium fluoride.

12. The light-emitting element according to claim 10, wherein the first substance is at least one of metal oxides selected from molybdenum oxide, vanadium oxide, ruthenium oxide, and rhenium oxide, and wherein the third substance is at least one of substances selected from lithium oxide, calcium oxide, sodium oxide, potassium oxide, magnesium oxide, lithium fluoride, cesium fluoride, and calcium fluoride.

13. A light-emitting element comprising[^]
a first electrode and a second electrode,
a first layer, a second layer and a third layer formed between the first electrode and the second electrode,

wherein the first layer contains an anthracene derivative represented by a general formula (I) and a first substance that shows electron acceptability to the anthracene derivative,

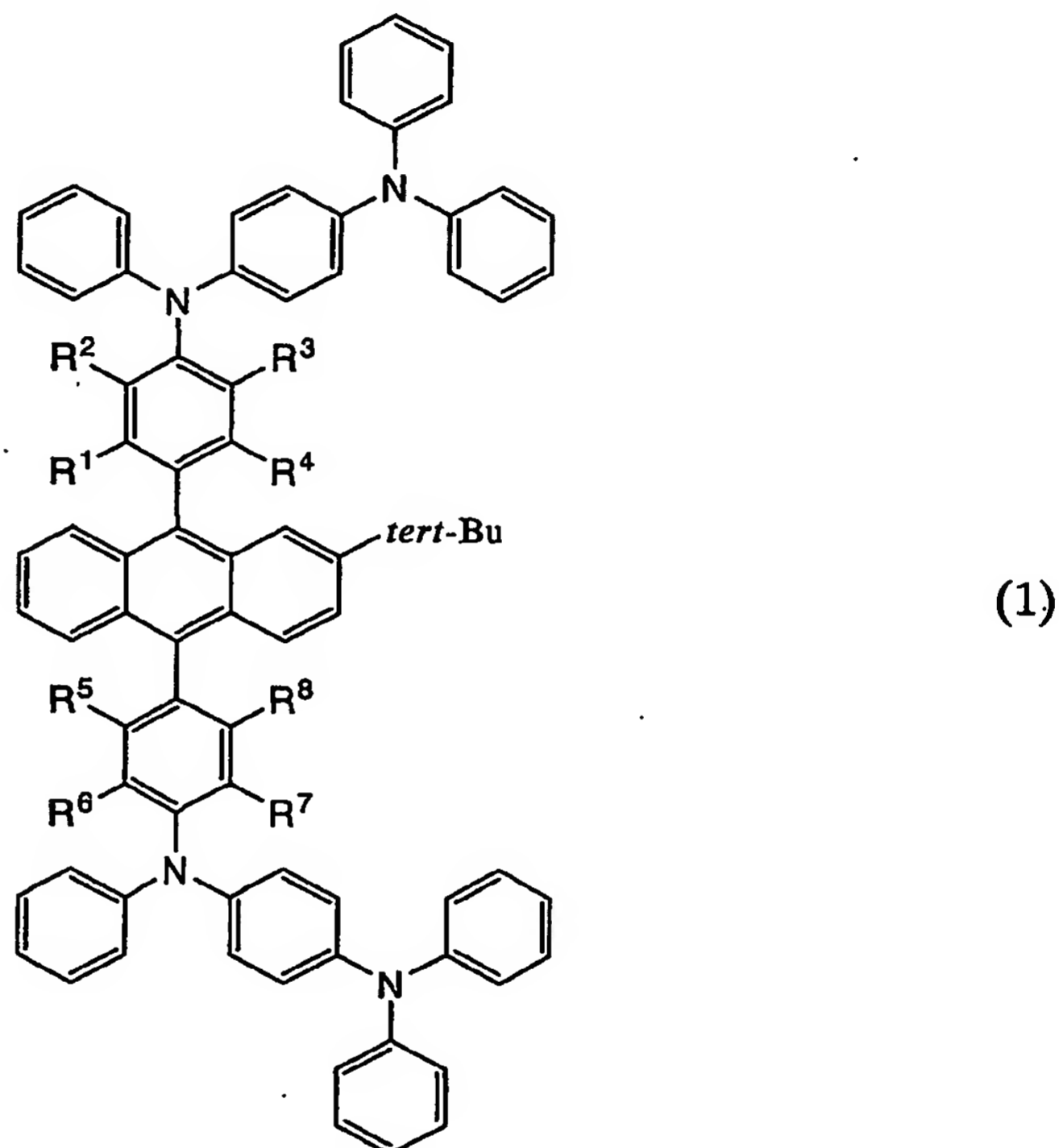
wherein the second layer contains a second substance having electron mobility of $1 \times 10^6 \text{ cm}^2/\text{Vs}$ or more and a third substance that shows electron acceptability to the second substance,

wherein the third layer contains an electron-transporting layer, a light-emitting layer, a hole-transporting layer, and a hole-generating layer,

wherein the first layer is provided nearer the first electrode side than the second layer,

wherein the third layer is provided nearer the second electrode side than the second layer, and

wherein the second layer and the electron-transporting layer are in contact with each other,



5

wherein R^1 to R^8 are individually any one of hydrogen and an alkyl group having 1 to 4 carbon atoms, or R^1 and R^2 , R^3 and R^4 , R^5 and R^6 , and R^7 and R^8 are individually bonded to from an aromatic ring,

wherein the bond of R^1 and R^2 , the bond of R^3 and R^4 , the bond of R^5 and R^6 , and the bond of R^7 and R^8 are independent of one another.

14. A light-emitting element comprising:
- a first electrode and a second electrode,
 - a first layer, a second layer and a third layer formed between the first
- 15 electrode and the second electrode,

wherein the first layer contains an anthracene derivative represented by a general formula (2) and a first substance that shows electron acceptability to the anthracene derivative,

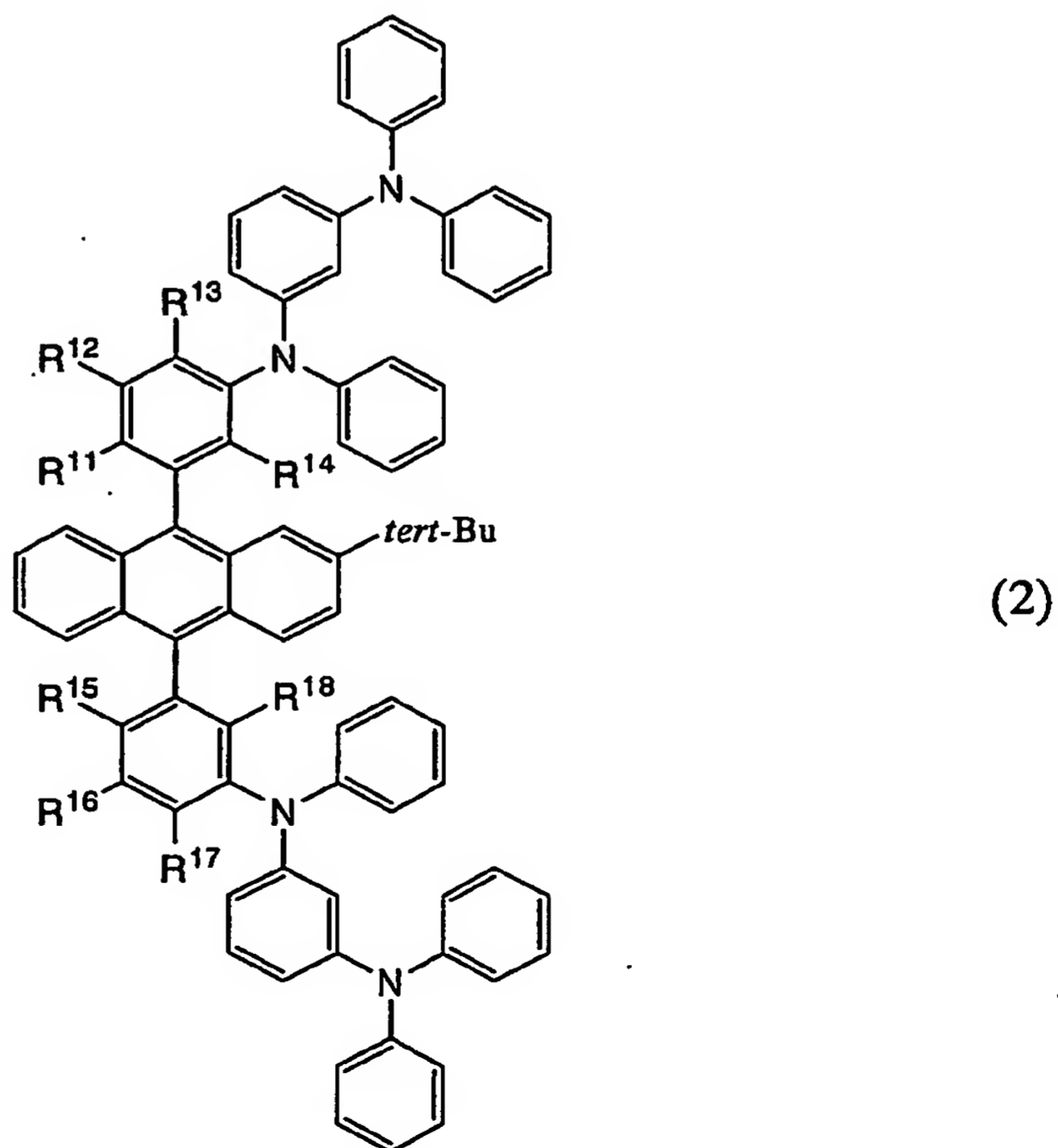
wherein the second layer contains a second substance having electron
5 mobility of $1 \times 10^{-6} \text{ cm}^2/\text{Vs}$ or more and a third substance that shows electron
acceptability to the second substance,

wherein the third layer contains an electron-transporting layer, a light-emitting layer, a hole-transporting layer, and a hole-generating layer,

wherein the first layer is provided nearer the first electrode side than
10 the second layer,

wherein the third layer is provided nearer the second electrode side than the second layer, and

wherein the second layer and the electron-transporting layer are in contact with each other,



wherein R^{11} to R^{18} are individually any one of hydrogen and an alkyl group having 1 to 4 carbon atoms, or R^{11} and R^{12} , R^{12} and R^{13} , R^{15} and R^{16} , and R^{16} and R^{17} are individually bonded to from an aromatic ring,

wherein the bond of R^{11} and R^{12} , the bond of R^{12} and R^{13} , the bond of R^{15} and R^{16} , and the bond of R^{16} and R^{17} are independent of one another.

15. The light-emitting element according to claim 13, wherein the first substance is at least one of metal oxides selected from molybdenum oxide, vanadium oxide, ruthenium oxide, and rhenium oxide, and wherein the third substance is at least one of substances selected from lithium oxide, calcium oxide, sodium oxide, potassium oxide, magnesium oxide, lithium fluoride, cesium fluoride, and calcium fluoride.

16. The light-emitting element according to claim 14, wherein the first substance is at least one of metal oxides selected from molybdenum oxide, vanadium oxide, ruthenium oxide, and rhenium oxide, and wherein the third substance is at least one of substances selected from lithium oxide, calcium oxide, sodium oxide, potassium oxide, magnesium oxide, lithium fluoride, cesium fluoride, and calcium fluoride.

17. The light-emitting device using a light-emitting element according to any one of claims 1 to 16 as a pixel or a light source.

18. The electronic device using a light-emitting element to any one of claims 1-16 as a display portion.